



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/807,732	08/20/2001	Cristian Demetrescu	DEMETRESCU2	5998
7590	04/27/2005		EXAMINER	
Lucent Technologies Inc 600 Mountain Avenue PO Box 636 Murray Hills, NJ 07974-0636			NG, CHRISTINE Y	
			ART UNIT	PAPER NUMBER
			2663	

DATE MAILED: 04/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/807,732

Applicant(s)

DEMETRESCU ET AL.

Examiner

Christine Ng

Art Unit

2663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4/16/01.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Specification***

1. The abstract of the disclosure is objected to because it should be in paragraph form. Correction is required. See MPEP § 608.01(b).

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-8, 12 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,568,513 to Croft et al.

Referring to claim 1, Croft et al disclose a method of recovering a received packet comprising the steps of:

**a)** Generating (Figure 5, Manchester code demodulator 11) a soft value for each bit of the received packet (Figure 2, A1 or B1). Refer to Column 4, lines 61-65 and Column 8, lines 18-21.

**b)** Storing (Figure 5, cumulative majority vote circuits 13) the soft values of the received packet. Refer to Column 5, line 48 to Column 6, line 1; and Column 6, lines 23-31.

**c)** Performing (Figure 5, CRC check circuit 14) an error check on the received packet. Refer to Column 6, lines 36-65.

**d)** Responsive to detection of an error:

i) Receiving a retransmission of the packet (Figure 2, A2 or B2). Refer to Column 7, lines 29-34.

ii) Generating (Figure 5, Manchester code demodulator 11) a soft value for each bit of the retransmitted packet. Refer to Column 5, lines 48-65.

iii) Combining (Figure 5, cumulative majority vote circuits 13) each generated soft value with the respective last stored soft values. Refer to Column 7, lines 34-46.

iv) Storing (Figure 5, cumulative majority vote circuits 13) the combined soft values. Refer to Column 7, lines 34-46.

v) Performing (Figure 5, CRC check circuit 14) an error check based on the thus combined soft values. Refer to Column 7, lines 46-51.

vi) Responsive to detection of an error repeating steps i) to v). Refer to Column 7, lines 57-67.

Referring to claim 2, Croft et al discloses that the step of combining (Figure 5, cumulative majority vote circuits 13) each soft output value of the retransmitted packet with the respective stored soft output value comprises adding the respective soft values. Refer to Column 7, lines 29-36 and lines 57-61.

Referring to claim 3, Croft et al discloses that the step of determining (Figure 5, CRC check circuit 14) a hard value from the soft values of the received packet. Refer to Column 6, lines 36-41.

Referring to claim 4, Croft et al discloses that the error check of step c) is performed on the hard value. Refer to Column 6, lines 36-56.

Referring to claim 5, Croft et al discloses the step of determining (Figure 5, CRC check circuit 14) a hard value from the combined soft values. Refer to Column 6, lines 36-56 and Column 7, lines 46-51.

Referring to claim 6, Croft et al discloses that the error check of step **v)** is performed on the hard value. Refer to Column 6, lines 36-56 and Column 7, lines 46-51.

Referring to claim 7, Croft et al discloses that if no error is detected in step **c)**, the hard value forms an output. Refer to Column 6, line 57 to Column 7, line 4.

Referring to claim 8, Croft et al discloses that if no error is detected in step **v)**, the hard value forms an output. Refer to Column 6, line 57 to Column 7, line 4; and Column 7, lines 57-67.

Referring to claim 10, Croft et al discloses that the error check (Figure 5, CRC check circuit 14) comprises a cyclic redundancy code check. Refer to Column 3, line 64 to Column 4, line 3; and Column 6, lines 32-35.

Referring to claim 11, Croft et al discloses that in step **vi)**, steps **i)** to **v)** are repeated a predetermined number (5) of times. Refer to Column 7, lines 57-67.

Referring to claim 12, Croft et al discloses that in step **vi)**, steps **i)** to **v)** are repeated for the maximum number (5) of retransmissions allowed by the system, or for the maximum delay per packet (none). Refer to Column 7, lines 57-67.

Referring to claim 14, refer to the rejection of claim 1. Croft et al discloses a receiver comprising:

**a)** Input circuitry (Figure 5, receiver 10) for receiving a transmitted packet.

**b)** Generating circuitry (Figure 5, Manchester code demodulator 11), connected to the input circuitry, for generating a soft value for each bit of the received packet (Figure 1, A1 or B1).

**c)** Storage circuitry (Figure 5, cumulative majority vote circuits 13) for storing the thus generated soft values.

**d)** error checking circuitry (Figure 5, CRC check 14) for performing an error check on the received packet.

**e)** Combining circuitry (Figure 5, cumulative majority vote circuits 13), wherein responsive to detection of an error:

**i)** The input circuitry (Figure 5, receiver 10) receives a retransmission of the packet.

**ii)** The generating circuitry (Figure 5, Manchester code demodulator 11) generates a soft value for each bit of the retransmitted packet.

**iii)** The combining circuitry (Figure 5, cumulative majority vote circuits 13) combines each generated soft value with the respective stored soft values.

**iv)** The storage circuitry (Figure 5, cumulative majority vote circuits 13) stores combined soft values in place of the stored soft values.

**v)** The error checking circuitry (Figure 5, CRC check 14) performs an error check based on the thus combined soft values.

**vi)** wherein i) to v) are repeated responsive to detection of an error in v).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,568,513 to Croft et al in view of U.S. Patent No. 5,903,556 to Matui.

Croft et al does not disclose that prior to the step **a)** or **i)**, equalizing the received packet.

Matui discloses in Figure 1 a reception apparatus with an equalizer 109. The equalizer 109 prevents deterioration of a signal due to a delay distortion caused by the radio transmission path. Refer to Abstract; Column 3, lines 51-64; and Column 5, lines 14-25. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that prior to the step **a)** or **i)**, equalizing the received packet; the motivation being so that before beginning signal processing, the signal can be adjusted by the equalizer for any delay distortion, channel interference or multipath propagation caused by the radio transmission path.

***Conclusion***


6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine Ng whose telephone number is (571) 272-3124. The examiner can normally be reached on M-F; 8:00 am - 5:00 pm.

Art Unit: 2663

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C. Ng  
April 19, 2005

  
RICKY NGO  
PRIMARY EXAMINER

4/22/05